

LOCALITY MAP

Compartment 36

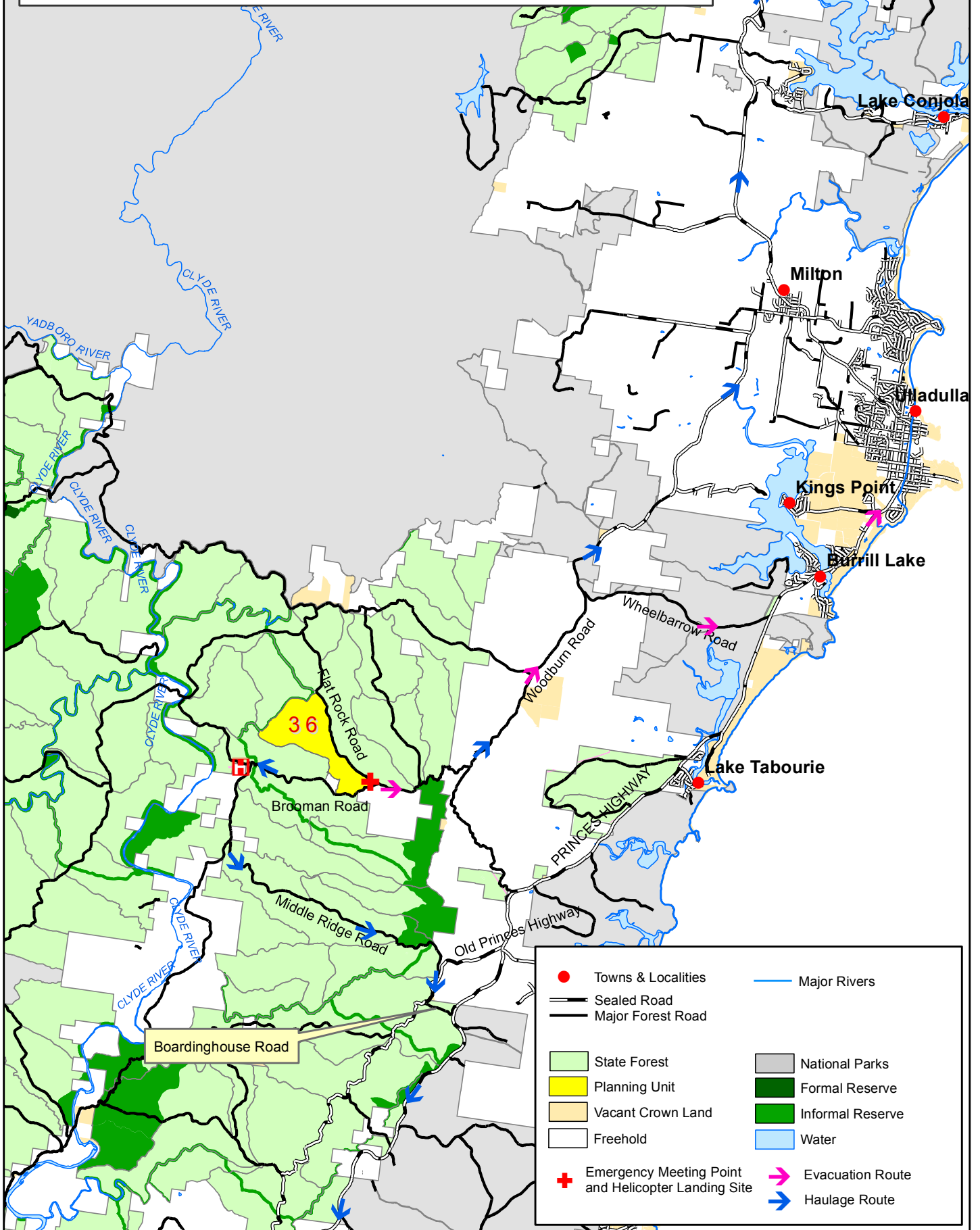
Flat Rock State Forest No.834

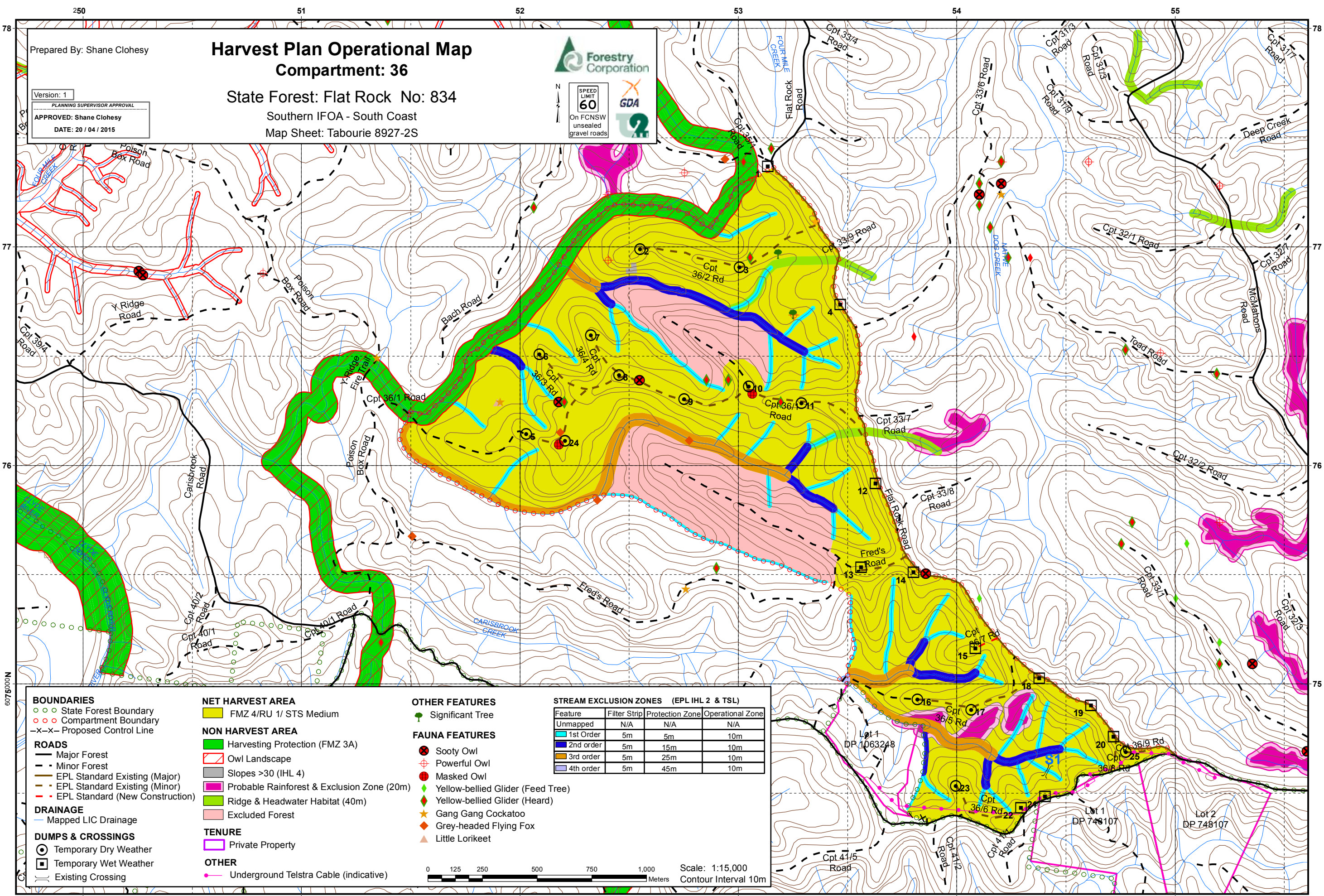
SOUTHERN REGION: SOUTH COAST MANAGEMENT AREA

Scale: 1:150,000



SPEED
LIMIT
60
On FCNSW
unsealed
gravel roads





Prepared By: Shane Clohesy


Harvest Plan Forest Type Map

Compartment: 36

State Forest: Flat Rock No: 834

Southern IFOA - South Coast


Map Sheet: Tabourie 8927-2S




SPEED LIMIT

60

On FCNSW
unsealed
gravel roads





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BOUNDARIES

- State Forest Boundary
- Compartment Boundary

ROADS

- Major Forest
- - Minor Forest
- EPL Standard Existing (Major)
- - EPL Standard Existing (Minor)
- . EPL Standard (New Construction)

DRAINAGE

- Mapped LIC Drainage

BROAD FOREST TYPES

Coastal Moist Forest - 130.8ha
Spotted Gum - 171.7ha
Coastal Dry Forest - 46.6ha
Rainforest 4.1ha
Non Eucalypt Forest - 0.8ha
Non Forest - 0.5ha

01252505007501,000

Meters

Scale: 1:15,000
Contour Interval 10m

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HARDWOOD FORESTS- SOUTHERN IFOA SOUTH COAST HARVESTING PLAN

Flat Rock State Forest - Compartment 36

Certification

This plan has been prepared in accordance with the Integrated Forestry Operations Approval issued under the Forestry and National Park Estate Act 1998. The Harvest Plan Standard Conditions for Hardwood Forest Operations in South Coast apply to this operation.

Prepared By:	Shane Clohesy	Approved By:	Lee Blessington
Harvest Planner		Planning Supervisor	
Signature	Shane Clohesy	Signature	Lee Blessington
Date	17/04/2015	Date	20/04/2015

Note: Approval includes the Harvest Plan Operational Map (HPOM) with the corresponding approval date displayed on the map, verifying final approved version. Other maps included with this plan are Locality, Forest Type, Roading and Cultural Heritage (limited distribution).

Description of Proposal

Harvesting of Hardwood forest

Harvesting of Hardwood forest, using Single Tree Selection Silviculture subject to the Southern IFOA requirements will be undertaken within this planning unit. **Timber harvesting and road construction will not be licensed under the EPL.**

The primary product of the harvesting is high quality large sawlogs (quota logs), small high quality sawlogs, veneer logs, girders, poles & piles where timber markets are available. Parts of felled logs that do not meet high quality log specifications are segregated and graded into other classifications such as salvage sawlogs, pulp logs & miscellaneous timbers e.g. split & round posts, firewood, mining timbers & craftwood. The availability of miscellaneous timbers depends mainly on forest types, log defectiveness & market conditions at the time of harvesting.

Clause 22 – Integrated Forestry Operations Approval (IFOA) Consideration

All relevant factors have been reviewed taking into account the volume and monetary value of each forest product to supply Term Agreement Holders. The harvesting operation also complies with Clause 22 of the IFOA.

Attachment 1: Site Safety Plan prescribes safety requirements and Medical Emergency Evacuation Plan for this harvesting operation.

Attachment 2: Roading plan prescribes roading requirements for this harvesting operation.

Abbreviations used in this plan

FT = Forest Technician, HC= Harvesting Coordinator, PtS= Protection Supervisor, HS = Harvesting Supervisor, RC = Roading Coordinator, IFOA = Integrated Forestry Operations Approval.

Area Identification and Yield Estimates

State Forest	Compartment/s	IFOA Region	Management Area	Certification
Flat Rock	36	Southern	South Coast	AS4708:2007 ISO 14001

	Cpt 36
Plan Compartment ID	21961
Gross Area (ha)	345.5
Net Harvestable Area (ha)	282.3
Harvest Area (ha)	228.8
Poles, Piles, Veneer & Girders	Nil
Quota Logs (HQL)	1,300m ³
High Quality Small	400m ³
Salvage	500m ³
Pulp E1	4,000t
Firewood/Misc	400t

Note: The yield estimates in the table above are derived from the Plan of Operations.

Slope Classes (percent of harvest area)

	Cpt 36
Slope Class	% of harvest area
0-20°	94.4
20-25 °	5.1
25-30 °	0.5



ATTACHMENT 1: SITE SAFETY PLAN

Worksite Information		
Is this Declared Hunting Area: No	Comments:	
Have Exclusion Zone signs been erected or checked prior to starting work daily.	N/A	
Comments:		
Description of Work to be undertaken on site: - Refer to description of proposal above.		
Site Supervisor		
Name:	Contact number:	
Communication		
Radio channel number	VHF:	UHF
Other (e.g. hand signals):		
Traffic management (describe) e.g. Signage, Road closure, Traffic control		
<p>The logging contractor is responsible for traffic control on all roads when felling is within two tree lengths of the tallest tree to be felled of the road or snagging on roads, or loading is occurring within 10 metres of a road. Warning of trucks entering must be displayed 200 metres either side of all State Forest and Shire road approaches leading to areas where harvesting operations are in progress.</p> <p>In addition to the above, Brooman Road is frequently used by vehicles for private property access. If harvesting within two tree lengths of Brooman Road this road must be temporarily closed in accordance with "Traffic Control Plan 78: Harvesting within 2 Tree Lengths of Brooman Road" which is attached to this plan. FCNSW will provide suitably accredited traffic controllers to implement this Traffic Control Plan.</p> <p>This plan identifies haulage from the compartment in two directions.</p> <ol style="list-style-type: none"> 1. South along Flat Rock Road (FCNSW Road), turning right and heading west along Brooman Road (FCNSW/Shire owned), then turning left onto Middle Ridge Road (FCNSW Road) then right onto Old Princes Highway (Shire Road), then left onto Boardinghouse Road (FCNSW Road) and then right onto the Princes Highway (100km/hr road); or 2. South along Flat Rock Road (FCNSW Road), turning left and heading east along Brooman Road (FCNSW/Shire Owned), then turning left onto Woodburn Road (Shire Road) and then right onto the Princes Highway (100km/hr Road). <p>In order to cause minimal disruption to the residences along Shire owned Old Princes Highway trucks may travel to the compartment (empty) via Princes Highway (from Termeil), turning west onto the Old Princes Highway, then right (north-west) onto Middle Ridge Road. However when hauling from the compartment, loaded trucks must not travel east along Old Princes Highway to the Princes Highway/Termeil.</p> <p>The intersection of Flat Rock Road and Brooman Road has been assessed as not achieving a minimum of 120m sight distance on both approaches. Therefore prior to haulage commencing a suitably qualified person must implement "Traffic Control Plan 195: Intersection of Flat Rock Road/Cpt 36/8 Road and Brooman Road" (attached to this harvest plan) at this intersection.</p> <p>The intersection of Cpt 36/8 Road and Brooman Road has been assessed as not achieving a minimum of 120m sight distance on both approaches. Therefore prior to haulage commencing a suitably qualified person must implement "Traffic Control Plan 195: Intersection of Flat Rock Road/Cpt 36/8 Road and Brooman Road" (attached to this harvest plan) at this intersection.</p>		

The intersection of Middle Ridge and The Old Princes Highway roads has been assessed as not achieving a minimum of 120m sight distance on both approaches. Permanent signage in accordance with “TCP195_ Middle Ridge Old Princes Hwy Intersection” is erected at this intersection. No additional signage is required.

The intersection of Boardinghouse Road and Princes Highway has been assessed as having a sight distance of >250m on northern approach and 220m on southern approach. The southern approach already has truck warning signage installed. Additional signage or a Road Occupancy Licence is not required at this intersection.

Road intersections outside the control of FCNSW are not covered by this plan or any FCNSW Traffic Control Plan. Haulage contractors must abide by RTA road laws and standard operating procedures in relation to haulage routes outside the control of FCNSW.

Dust, noise and school bus routes

Dust and noise – Where log haulage routes pass close to rural housing along natural surface/gravel roads dust and noise must be minimised to the greatest extent practicable. Trucks should reduce speed, restrict use to daylight hours and minimise the use of engine brakes through these areas.

Name of on-site safety first-aiders/s

Location of first-aid kit

SITE HAZARD & RISK ASSESSMENT NO.	CONTROL	WHO	IMPLEMENTED
1. Vehicle collision at adjoining roads of various traffic levels	Warning signs at FCNSW intersections, road closure on FCNSW roads. Implement Traffic Control plans (where specified in this harvest plan). 60km/hr speed limit on all State Forest gravel roads unless otherwise signposted. Compliance with FCNSW lights on policy.		
2. Hazardous or dead trees	Refer to FCNSW operational safety standard OSS010. Assess area within two tree lengths of work site. Assess risk, mark any Distinctly Dangerous Trees with the symbol Ø & if necessary remove hazard or move work site. Use machinery to assist with hazard removal if possible Contractor is responsible for implementing control strategies during harvesting.		
3. Overhead hazards associated with dumps	Refer to FCNSW operational safety standard OSS010. Assess overhead hazard within two tree lengths of the dump. Assess risk, & if necessary remove hazard or relocate dump site. Contractor is responsible for implementing control strategies during harvesting.		
4. Dust from passing vehicles along dirt haulage routes	Restrict speed to minimise dust generation, slow down when passing vehicles. Turn on driving and hazard lights to increase visibility.		
5.			
6.			

- **All** visitors, contractors and employees **must** be fully **inducted** onto the worksite by the workplace supervisor e.g. the Principal Contractor or the Forestry Corporation supervisor. This must be recorded on the attached induction sheet.
- Relevant **Safe Work Procedures** are available and understood for the type of work to be undertaken.

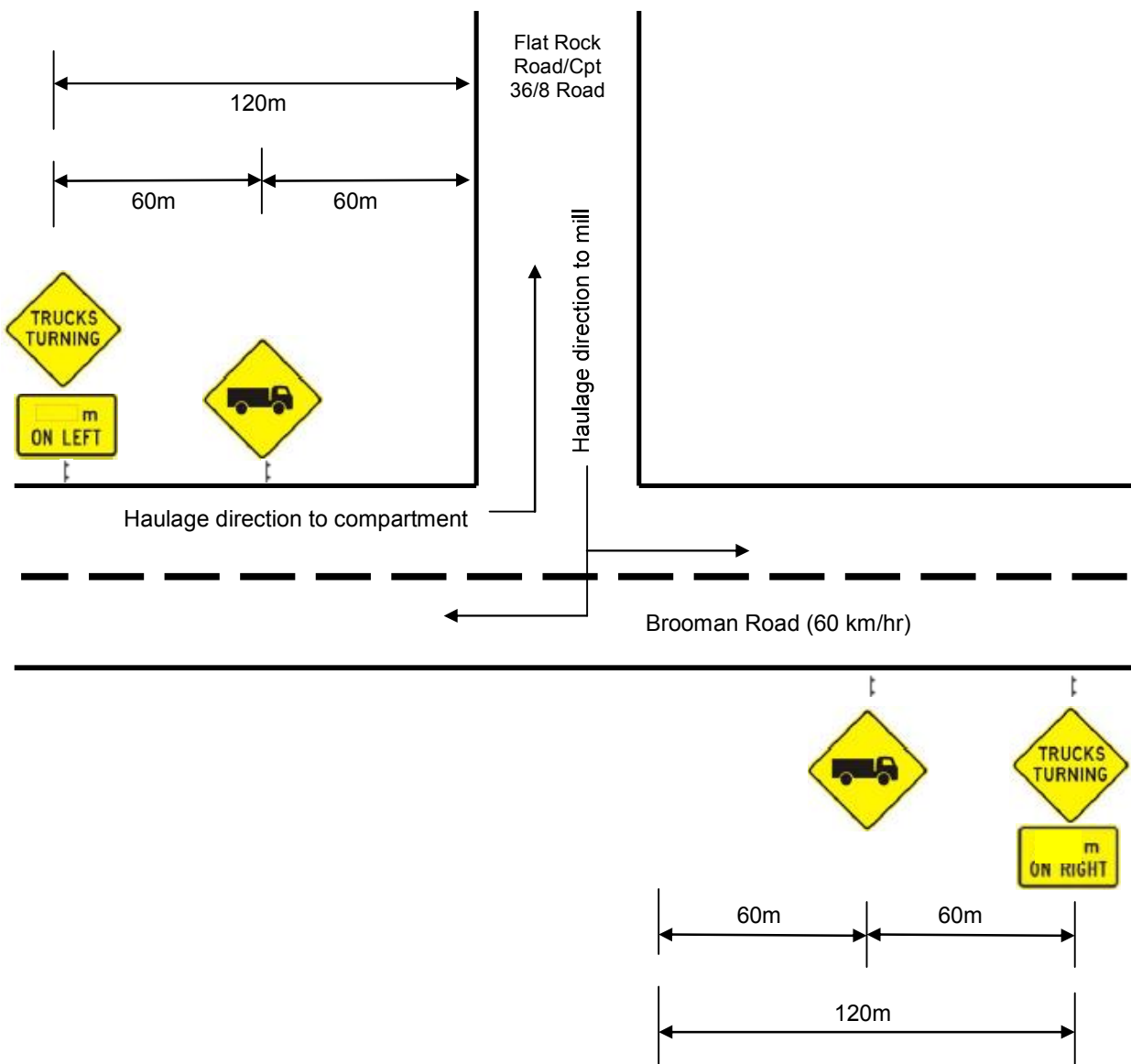
- A **Risk and Hazard Assessment Worksheet** must be completed if site specific hazards are identified that are not covered by a **Safe Work Procedure**. The top (pink sheet) is to be attached to this site safety plan.
- Operators in training must be supervised by the site supervisor.
- All appropriate Personal Protective Equipment (PPE) must be worn on the worksite at all times



MEDICAL EMERGENCY EVACUATION PLAN

Nearest reliable mobile phone reception (describe location)			
Next G Network: Good		GSM: N/A	
GPS Lat/Long: 35° 26' 26" S / 150° 17' 54" E		MGA: 254768E 6074720N	
Datum: GDA 94		Zone: 56	
Location description: Higher points on Flat Rock Road.			
Emergency meeting point for ambulance / police (refer to attached safety map)			
GPS Lat/Long: 35° 26' 28" S / 150° 18' 3" E		MGA: 254998E 6074676N	
Datum: GDA 94		Zone: 56	
Location description: Intersection of Flat Rock Road and Brooman Road.			
Helicopter landing place (refer to attached safety map)			
GPS Lat/Long: 35° 26' 04" S 150° 15' 34" E			
Location description: Junction of Brooman Road and Carisbrook Road.			
Procedures to obtain ambulance assistance			
<ol style="list-style-type: none"> 1. Dial 000 2. If there is no mobile coverage, dial 112 (which will work on any mobile phone system). 3. If no response on 112: <ul style="list-style-type: none"> • use a radio link (TARA, be discrete with personal information) • move to an area with mobile coverage • find a landline • use another network (e.g. a contractor's VHF radio) 		<p>Contact nearest Forestry Corporation office on:</p> <p>Channel: 236</p> <p>Telephone: 1300 880 548</p> <p>Give details of the situation and ask for a 000 call to be placed.</p>	
000 operator question:		Response:	
1. Police, Fire, Ambulance?		NSW Ambulance,	
2. Suburb?		State Forest name: Flat Rock Nearest town or locality: Termiel Nearest ambulance station: Ulladulla	
3. Address?		Flat Rock Road	
4. Nearest road junction/cross street?		Flat Rock Road and Brooman Road	
5. Local government area?		Shoalhaven	
6. Nature of the problem?		Describe the accident, number and condition of casualties	
7. Where is the accident?		Refer to safety meeting point above	
Directions to navigate from nearest ambulance station to the emergency meeting point. From Ulladulla head south on the Princes Highway for approx. 8km to Wheelbarrow Road junction. Turn right onto Wheelbarrow Road and travel for approx. 6km to intersection of Woodburn Road. Turn left onto Woodburn Road and travel approx. 7km to intersection of Brooman Road. Turn right onto Brooman Road and travel approx. 3.8km to intersection with Flat Rock Road.			
8. 4WD ambulance required: No		CB radio channel to use:	
9. Injuries?		Give detailed information about the condition of the casualty (do not mention names over radio system)	
10. Your name and call back number:			

Forests NSW Southern Region TCP 195: Intersection of Flat Rock Road/ Cpt 36/8 Road and Brooman Road (modified from RTA Traffic Control at Work Site TCP 195)

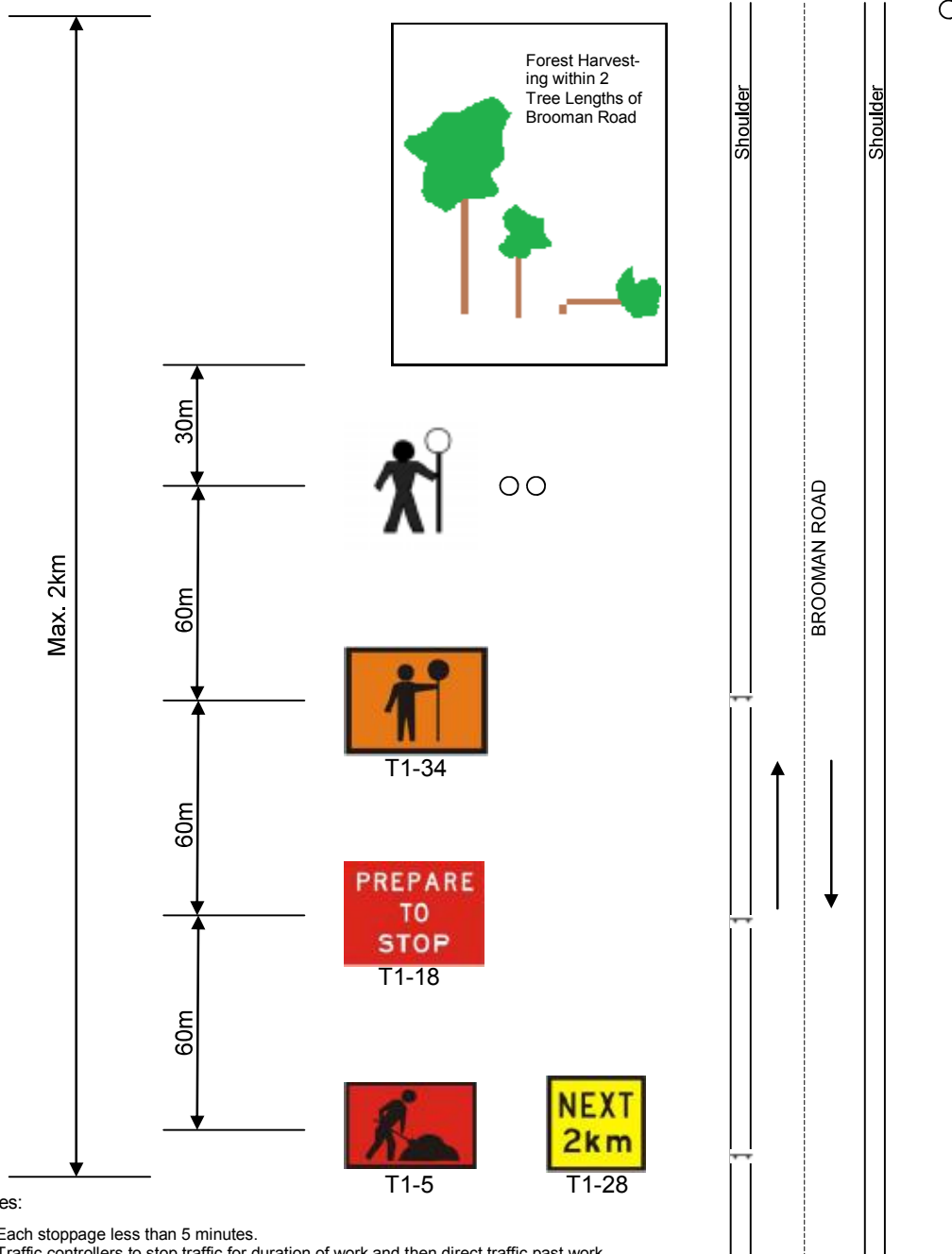


Notes:

- Log Haulage - Intersection of Flat Rock Road with Brooman Road (60km/hr) and Cpt 36/8 Road with Brooman Road. Sight distance restricted to <120m on both approaches these intersections.

LONG TERM USE
ADT < 1500, <20 Truck Movements, Sight Distance Restricted
Prepared by Shane Clohesy, Red Card Certificate No. 5192033062 on 16/01/2015

Forests NSW Southern Region Traffic Control Plan 78: Harvesting within 2 Tree Lengths of Brooman Road (modified from RTA Traffic Control at Work Site TCP 78)



Notes:

- Each stoppage less than 5 minutes.
- Traffic controllers to stop traffic for duration of work and then direct traffic past work area, once tree falling has ceased and any debris has been cleared from road.
- Traffic controllers and tree faller to maintain radio contact so that no tree falling is occurring while traffic is let through.
- As ADT is less than 300 vehicles per day Traffic Controller, T1-34 & T1-18 are optional.
- Traffic control plan must be mirrored for the other direction of traffic.

FREQUENTLY CHANGING WORK AREA
2 LANE/2 WAY
ADT < 300

Prepared by Shane Clohesy, Red Card Certificate No. 5192033062 on 31/05/2012

Silviculture and Harvesting Prescriptions
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Year	1939	1956	1984	2004	2005
TSI	X	X	Ö	X	Ö
HR Burning	X	X	X	X	X
Wildfires	X	X	X	X	X
Logging m ³	Unknown	Unknown	4000	12000	0

Ö - applies, X – not applicable

Compartment	Resource Unit	No. of Sweeps	BA Average (m ² /ha)	BA Range (m ² /ha)
36	1	11	26	16-34

Silvicultural Planning

Single Tree Selection

The STS tract (230.4ha) is a predominantly mixed aged mature forest and will be harvested under a medium single tree selection (STS) regime. The objective within the 228.8ha harvest area for this operation (resource unit 1) is to remove 35% of the basal area to create canopy openings for regeneration, whilst retaining and minimising damage to young regenerating stems, seed trees, habitat and recruitment trees.

It is envisaged that the next harvesting operation in this compartment would be on average 30 years time.

Single Tree Selection (STS) must remove no more than 35% of the basal area (BA), while retaining a minimum BA of 10m² per hectare within the tract.

Resource Unit (Refer to HPOM for detail)	Species Composition	Stand Structure and Condition
1	Overstorey dominated by Sydney blue gum (<i>E. saligna</i>) and spotted gum (<i>C. maculata</i>). Other species include blackbutt (<i>E. pilularis</i>) and yellow stringybark (<i>E. muelleriana</i>).	<u>Structure</u> : Mixed-aged. Highly variable over short distances. Generally scattered mature and overmature trees with good quality advanced pole/small sawlog sizes and sapling regrowth. Consolidated clumps of mature stems associated with gully lines. <u>Condition</u> : Mature component generally consists of stems with poor form. Advanced growth and regrowth is generally very good.

Harvesting Prescription

Resource Unit (Refer to HPOM for detail)	% of Harvest Area	Silvicultural Treatment
RU 1	100%	<p>STS medium:</p> <ul style="list-style-type: none"> Retain and protect from fire/harvesting damage: <ul style="list-style-type: none"> -poles/advanced growth (<40cm DBHOB) with good form and vigour, -habitat and recruitment trees as per TSL, -retain additional dominant and co dominant trees of good form and vigour to ensure the total BA removed across the resource unit is no more than 35%. Retained trees should be evenly spaced throughout the resource unit. All other products should be removed.

Note: The area of each silvicultural treatment must be mapped and recorded in the Post logging information section of this plan.

Special Requirements

Noxious Weeds/Disease/Pests Hygiene Requirements

There are no known noxious weeds, pathogens or diseases in the compartment. Harvesting Machinery is not required to be washed down prior to leaving the compartment.

Compartment 36 is within Eurobodalla Shire Council which is a designated red zone for Myrtle Rust. In order to prevent the spread of Myrtle Rust all harvesting machinery, equipment and vehicles heading west from Eurobodalla Shire Council or south into Victoria must be inspected for vegetation containing Myrtle Rust. If present, the vegetation must be removed from the harvesting machinery, equipment or vehicle prior to leaving the compartment.

Significant/Outstanding trees

There are two records of significant/outstanding Blue Gum Tree (~2m DBHOB) in the compartment (E253168 N6076981; E253237 N60766691). These trees must be retained. Damage to the trees must be minimised by using directional falling techniques and logging debris must not be allowed to accumulate within 5m of the tree.

Road Works

Within the compartment boundary only roads that are shown on the HPOM as EPL standard or sealed may be used for haulage.

Private Property

Private property occurs adjacent to parts of the south-eastern boundary of the compartment, as indicated on the HPOM. Private property owners have been notified of the scheduled harvesting and post-harvest burning. The table below lists neighbours who adjoin compartment 36:

Name	Lot/DP Number (s)	Postal Address	Contact number (& email if available)	Was harvest plan notification letter returned to sender?	Pre burn notification done?

- No harvest disturbance is permitted on private property.
- Harvesting debris must not be left within five metres of the boundary fence lines.
- Any damage to fences must be repaired by the contractor.
- Access roads must be maintained free of debris and in a trafficable state.

Occupation Permits

Apiary

7 apiary sites provided in the table below are located within the planning unit. Contact details are available from the Batemans Bay office.

Name	Site Number	Contact number	Pre burn notification complete?

- The HC must provide the apiary permittees with at least two weeks advance notice when bee boxes need to be removed or relocated.

Underground Cables

A dial before you dig request query of the compartment indicates that underground Telstra cables are present on the southern side of the compartment adjacent to Brooman Road. Dial before you dig and field markers (where located) have been used to indicate the approximate location of the cable on the HPOM. Prior to any harvesting or roading activity taking place in the vicinity of the cables, the HC should inspect the area for markers or other evidence of the cables and flag with marking tape. When carrying out harvesting or road maintenance activities near cables, minimise ground disturbance across or along and increase depth of earth cover if required.

From time to time above ground infrastructure associated with the cables occurs. Where this infrastructure is detected, the FT should pass the location and details on to the burning supervisor who should consider if extra protection measures (eg rake hoe line) are required.

Any damages to cables must be immediately reported to Telstra on 13 22 03.

Forest Management Zoning

FMZ 3A Harvesting Excluded and FMZ 4 - General Management (normal harvesting prescriptions apply) occur within the compartment. Refer to HPOM for more detail.

FMZ 3A – Logging operations are restricted as per condition 18(b) of the IFOA. Refer to Harvest Plan Standard Conditions for Hardwood Forest Operations in South Coast for detail of what logging operations are permitted in this zone. Prescribed burning is only permitted in these areas where fire does not conflict with underlying protection zones e.g. rainforest, cultural heritage etc. (Refer to cultural heritage flora and fauna sections of this plan and the standard harvest plan conditions for more detail).

IFOA Required Approval of Forestry Activities

Approvals have not been obtained for snig track construction and/or use, road construction, road re-opening, routine road maintenance and log haulage in FMZ 3A. If the HC identifies the need for harvesting related activities to occur within FMZ 3A during the operation, the Planner must be contacted to seek Planning Supervisor approval.

All areas of Rainforest require prior OEH approval and Stream Exclusion Zones require prior Planning Supervisor approval before forest harvesting related activities (eg: road or snig track construction & reopening) can be undertaken. It is the responsibility of the HC to identify any exclusion areas which will need to be crossed during harvesting. The HC must then contact the Planner to obtain the necessary approval.

Cultural Heritage

Flora and Fauna

Species adequately covered by general prescriptions:

The following species have been recorded in or around the compartments and are adequately covered by the general prescriptions. No further protection measures are required for these species:

Sooty Owl (*Tyto tenebricosa*), **Grey-headed Flying Fox** (*Pteropus poliocephalus*), **Little Lorikeet** (*Glossopsitta pusilla*), **Gang Gang Cockatoo** (*Callocephalon fimbriatum*)

Tree Retention

Zone	Hollow bearing Trees/ha	Recruitment Trees /ha	Protection of Retained Trees	Dead Standing Trees (only if safe)	Significant Food Resource*
Regrowth	Up to 5	1 for every tree retained under 5.6d	0	0	0
TSL condition	5.6d	5.6e	5.6h	5.6f	5.6 g

0 - Condition applies

General exclusion zones

General exclusions as listed below are shown on the HPOM.

Feature/Condition	TSL cond'n	Occurs within Planning Unit
Rainforest	5.4	Has been assessed as a risk that Warm Temperate/Cool Temperate/Depauperate (Dry) may occur in the field. May require further investigation#.
Riparian Protection Zones	5.7	Yes
Ridge & Headwater Habitat	5.8	Yes (40m total width)
Wetlands	5.9	Has been assessed & is unlikely to occur in the field. May require further investigation#.
Heath and Scrub	5.10	Has been assessed & is unlikely to occur in the field. May require further investigation#.
Rocky Outcrops and Cliffs	5.11	Has been assessed & is unlikely to occur in the field. May require further investigation#.

Endangered Ecological Community	NA	Has been assessed & is unlikely to occur in the field. May require further investigation#. Harvesting, harvesting machinery and post harvest burning must be excluded from all areas of EEC.
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#FT/HC will continue to conduct on the ground mark-up & searches and report back to foresters/ecologists any features requiring further investigation.

General Threatened Flora and Fauna Prescriptions

Feature	Records in 36	Licence conditions under the TSC Act
Threatened Frog General Protection Measures	No	5.12
Bird Nest and Roost Site Protection	No	5.13
Tree Bat Roost Protection	No	5.14.1
Subterranean Roost Protection	No	5.14.2
Protection of flying-fox Camps	No	5.14.3
Burning	Net planned area	5.16
Ground Habitat Protection	Net planned area	5.17

Species & Site-Specific Threatened Flora and Fauna Prescriptions

The following species have been recorded within or nearby the area and the associated prescriptions must be implemented:

Threatened species and habitat features within trigger distance	Records in 36	Licence conditions under the TSC Act or relevant Site-specific prescription
Powerful Owl <i>Ninox strenua</i> , Masked Owl <i>Tyto novaehollandiae</i> .	Yes Yes	6.4 If Owl Landscape within compartment - <i>Owl Landscape Exclusion Zones occur in compartment 36.</i>
Swift Parrot <i>Lathamus discolor</i>	No	6.5
Spotted tailed Quoll <i>Dasyurus maculatus</i>	No	6.10
Squirrel Glider <i>Petaurus norfolcensis</i>	No	6.12
Yellow-bellied Glider <i>Petaurus australis</i>	Yes	6.13

Fisheries Licence Conditions

There are no known records of threatened fish species or class 1 or 2 aquatic habitat relevant to this operation. The conditions of the fisheries licence are not triggered for this operation.

Soils and Water Protection

Refer to EPL Booklet & Standard Plan Conditions

Site-specific EPL Conditions

Elements	Conditions
Unmapped Drainage Lines	EPL does not apply: refer to drainage feature protection below.
Drainage Feature Protection	See HPOM for widths
Inherent Hazard Class	2
Dispersible Soils	No
Seasonality Harvesting Exclusions	No
Seasonality Burning Exclusions	No
Log Dumps	Refer relevant conditions for IHL
Snig Tracks	Refer relevant conditions for IHL
Roads	See Schedule 5 of EPL Booklet
Slope limits for harvesting	Refer to Schedule 4B.3 of EPL

Drainage Feature Protection

Filter strips (EPL), Protection Zones (EPL), Operational Zones (EPL), Protection Zones - hard (TSL) and Protection Zones - soft (TSL) must be retained along all drainage lines, prescribed streams and watercourses within the net planned area of the compartments at minimum widths as stated in the Table below.

Stream Order	EPL Filter Strip TSL Protection (hard)	EPL Protection Zone TSL Protection* (soft)	EPL Operational Zone	Drainage Feature Protection: FT/HC marking instruction
Unmapped	N/A#	N/A#	N/A#	5m (Red)
1st order	5	5	10	10m (Pink)
2nd order	5	15	10	20m (Pink)
3 rd order	5	25	10	30m (Pink)
4 th order +	5	45	10	50m (Pink)

for this operation FCNSW has chosen to harvest this area without EPL coverage. All EPL conditions continue to apply **except** for the rules applying to filter strips, protection zones and operational zones of the **unmapped drainage lines**. Refer to Best Management Practices for unmapped drainage lines in the standard conditions. Harvesting of unmapped drainage lines, MUST NOT occur in unmapped drainage lines which are running or holding water. It is the responsibility of the HC to inspect each unmapped drainage line prior to harvesting it, to determine if it is running or holding water.

Log Dump Location

25 log dumps are indicated on the HPOM. Field location of log dumps must utilise the most level site available consistent with the location indicated on the HPOM. Inherent hazard level 2 Conditions 26, 27, 28, 30, 31 and 33 of Schedule 4 of the EPL must apply.

Mass Movement

Compartment 36 is not in an area identified as having a potential for mass movement. No specific prescriptions relating to mass movement/snigging are required.

Suitability of existing log dams and gully stuffers

There are no known log dams or gully stuffers on snig track or road crossings in the compartments.

Condition 47 of Schedule 4 of the EPL must apply.

Post Log Burning Control Lines

To assist the post log burning crews prevent fire from entering areas to be excluded from burning, control line construction must be undertaken concurrently with harvesting. Where possible snig tracks patterns should be designed to double as control lines. Control lines must be located as close as reasonably practical to the feature to be excluded from burning. The HC must assess the areas harvested, snig track network and existing roads to determine if there are sufficient control lines in place and where required instruct the contractor to construct additional mineral earth control lines to supplement these. The HC must record instances where it was not possible to construct a suitable control line close to the feature to be excluded and recommend harvest areas which should be excluded from the post log burning operation due to inadequate control lines.

The table below lists critical boundaries in compartment 36. Where possible design snig track patterns so they double as bare earth containment lines as close as possible to these boundaries. Where this is not practical, it is NOT necessary to construct a bare earth break along boundary of the exclusion; the practice of no direct ignition will be followed.

Critical boundary	Completed Yes /No
FMZ 3A Exclusion	
Ridge & Headwater Exclusions	
Rainforest Exclusions	
Owl Landscape Exclusions	
Stream Exclusions	

The table below lists critical boundaries in compartment 36. Where possible design snig track patterns so they double as bare earth containment lines as close as possible to these boundaries. Where this is not practical, HC must instruct contractor to construct a bare earth break (drained as per EPL snig track conditions) as close as possible to the critical boundary.

Critical boundary	Completed Yes /No
Private Property	

Pre-Operational Briefing

I acknowledge that I have received a copy of the Harvesting Plan for compartment 36 in Flat Rock State Forest and that I have been briefed on the conditions of the Plan and understand the supervision and operational control requirements as explained to me by the HS or his/her delegate.

Position	Name	Signature	Date

Post Harvest Mapping Features Confirmation Checklist

Feature	Planning Updates	Reason (Error/New)	GIS update tool completed?	Harvesting Updates	Comments
Soil Regolith	No				
Mapped Drainage	No				
Rainforest	No				
Rocky outcrops	No				
Wetlands	No				
Cultural Heritage	No				
Existing Roads	No				
New Roads	No				
Heath	No				
Powerlines etc	No				
Other	No				

HC/FT Notes

[illegible]

HC/FT Notes (continued)

[illegible]

HC/FT Notes (continued)

[illegible]

HC/FT Notes (continued)

[illegible]

HC/FT Notes (continued)

[illegible]

Clearance Certificate

COMPARTMENT: 36 FLAT ROCK STATE FOREST

ToHC

I request approval for me to move my logging crew and all associated machinery from the above-mentioned area to the next compartment in accordance with Section 3.5 of the Forest Practices Code.

I certify that:

- (a) all permanent roads, trails and mitre drains have been cleared of harvesting debris;
- (b) butt damage to retained trees has been kept to acceptable limits;
- (c) all trees marked for removal have been felled;
- (d) utilisation limits have been satisfactorily met;
- (e) stump heights conform to requirements;
- (f) all hanging trees have been felled and brought down;
- (g) all log dumpsites have been satisfactorily restored as required;
- (h) harvesting debris is not accumulated around retained trees;
- (i) all accumulated litter has been disposed of properly;
- (j) all filter and buffer strip requirements have been complied with;
- (k) all snig track, extraction track and temporary logging road drainage has been installed satisfactorily and other required rehabilitation work has been completed;
- (l) all necessary repairs to damaged roads, signs, fences and other structures have been carried out.
- (m) _____ **(insert quantity) rubber flaps have been recovered in a satisfactory condition and reported to Roding Coordinator for collection.**
- (n) all machinery, equipment and vehicles have been checked and are free of noxious weeds, diseases and pests.

I believe that I have met all my obligations under the conditions of the Contractors Licence, the EPL and TSL which apply to the compartment just completed, as stated in this Harvesting Plan.

Signature.....Name.....Date
Contractor

As a result of inspections of the logging operations made in accordance with this Harvesting Plan, I am satisfied that, to the best of my knowledge, the contractor responsible for this harvesting operation has satisfactorily completed all work and approval is given for her/him to remove her/his machinery and equipment and leave the area/commence operations in another compartment.

This clearance does not release the contractor from any obligation to undertake any remedial work if subsequent deficiencies are shown to result from inadequate practices during the harvesting operation, which are found during any inspections of the area made within 12 months of the date of this post-harvesting inspection.

Last inspection was made on(Date)

Signed(Date).....
HC

Post Logging Information

Record any circumstances of significance relating to the harvesting of this compartment. Please draw or include any annotations on the attached operation scale map.

Summary of silvicultural treatment

Treatment type	Area (ha) subject to treatment (HC estimate)	Number of AGS gaps created	Comments
Australian Group Selection			
Single Tree Selection			
Thinning/Spacing			
Post Harvest Silviculture			

Actual area harvested (record on attached HPOM) Give reasons for harvestable areas that were not harvested (eg. Too steep, defective timber). Make reference to map.

Post Logging Basal Area sweeps

Sample point	GPS (GDA 94)	Pre-harvest (B) BA m ² /ha	Post-harvest(A) BA m ² /ha	Difference (D) (B – A) m ² /ha	% BA removed D/B x100	Comments
1	252113E 6076536N	34				
2	251391E 6077193N	28				
3	252238E 6076141N	24				
4	252480E 6076429N	30				
5	253569E 6075959N	30				
6	254119E 6075238N	16				
7	253811E 6074917N	24				
8	252871E 6074805N	30				
9	252871E 6074805N	20				
10	254002E 6074568N	32				
11	253551E 6075433N	20				
12						
13						
14						
15						
16						
17						
18						
Total averages	N/A	26				

Comply with maximum STS BA removal of 35% or Thinning BA removal of 60% Y/N

Possible next cut (tick appropriate boxes)

Main product type	Anticipated volume		
	H	M	L
Girders			
Veneer			
Poles/piles			
Quota			
Smalls/Thinnings			
Salvage			
Pulpwood/chipwood			

Time to next harvest	
0 to 5 years	
5 to 10 years	
10 to 20 years	
20 to 30 years	
30 plus years	

ATTACHMENT 2	ROADING PLAN
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Summary of Roding Requirements

Feature	Details	Works Required
Existing roads to be used.	7,940m/10	Yes
New roads to be constructed	110m/1	Yes
Existing crossings used	1	Yes
New crossings to be constructed	Nil	NA
Length of road >10°	160m	NA
Borrow pits and gravel pits	Nil	NA
Mass movement prescriptions apply	No	NA
Dispersible soil conditions apply	No	NA
Seasonality provisions apply	No	NA

Note: Maintenance works not completed by Roding Coordinator must be recorded and passed onto the HC for completion during harvesting and documentation.

The start and finish dates of all maintenance and construction must be recorded on the individual roding sheets along with other relevant changes or explanations.

All rubber flaps on minor forest roads must be removed and replaced with trafficable rollover banks on completion of operation.

CHECKLIST OF WORKS REQUIRED ON ROADS & CROSSINGS

Road/Crossing Name	Works Required	Date Started	Date finished	Signature
Flat Rock Road 3,590m	<p>Reshape sections as shown on the attached roading map (except through Cultural Heritage exclusion zones). Lift blade when machine traverses the exclusions. Blue flagging tape on approaches to the exclusions zones marks points where blades should be lifted and then lowered.</p> <p>Install new mitres in locations shown on the attached roading map (E254254 N6075132).</p> <p>Install new pipe in the location shown on the attached roading map (254313 N6075088).</p> <p>Clear up to 3m either side where required to facilitate truck movements (except through cultural heritage exclusion zones).</p> <p>RC/HC Comments:</p>			
Freds Road 650m	<p>Clear and reshape entire length (except through Cultural Heritage exclusion zones). Lift blade when machine traverses the exclusions. Blue flagging tape on approaches to the exclusions zones marks points where blades should be lifted and then lowered.</p> <p>Clear up to 3m either side to facilitate truck movements (except through cultural heritage exclusion zones). Where roadside clearing is required to allow trucks to traverse an exclusion zone, clearing may be carried out manually (i.e. chainsaw/pruning saw). Roadside clearing within CH exclusion zones needs to be limited to 1m either side.</p> <p>Install drainage as per EPL requirements.</p> <p>RC/HC Comments:</p>			

<p>Cpt 36/1 Rd 1,900m</p>	<p>Clear and reshape entire length (except through Cultural Heritage exclusion zones). Lift blade when machine traverses the exclusions. Blue flagging tape on approaches to the exclusions zones marks points where blades should be lifted and then lowered.</p> <p>Clear up to 3m either side to facilitate truck movements (except through cultural heritage exclusion zones). Where roadside clearing is required to allow trucks to traverse an exclusion zone, clearing may be carried out manually (i.e. chainsaw/pruning saw). Roadside clearing within CH exclusion zones needs to be limited to 1m either side.</p> <p>Install drainage as per EPL requirements.</p> <p>RC/HC Comments:</p>			
<p>Cpt 36/2 Rd 880m</p>	<p>Realign eastern-most section of road at intersection with Flat Rock Road. Yellow tape indicates the new road line for this section and must be followed to avoid damage to the cultural heritage exclusion zone. The realigned section is to be used because grading of the existing intersection between Cpt 36/2 Rd and Flat Rock Rd cannot be carried out.</p> <p>Clear and reshape entire length (except through Cultural Heritage exclusion zones).</p> <p>Clear up to 3m either side to facilitate truck movements (except through cultural heritage exclusion zones).</p> <p>Install drainage as per EPL requirements.</p> <p>RC/HC Comments:</p>			
<p>Cpt 36/3 Rd 270m</p>	<p>Clear and reshape entire length.</p> <p>Clear up to 3m either side to facilitate truck movements.</p> <p>Install drainage as per EPL</p>			

	<p>requirements.</p> <p>RC/HC Comments:</p>			
<p>Cpt 36/4 Rd</p> <p>240m</p>	<p>Clear and reshape entire length.</p> <p>Clear up to 3m either side to facilitate truck movements.</p> <p>Install drainage as per EPL requirements.</p> <p>RC/HC Comments:</p>			
<p>Cpt 36/5 Rd</p> <p>650m</p>	<p>Clear and reshape entire length.</p> <p>Clear up to 3m either side to facilitate truck movements.</p> <p>Install drainage as per EPL requirements.</p> <p>RC/HC Comments:</p>			
<p>Cpt 36/6 Rd</p> <p>410m</p>	<p>Clear and reshape entire length (except through Cultural Heritage exclusion zones). Lift blade when machine traverses the exclusions. Blue flagging tape on approaches to the exclusions zones marks points where blades should be lifted and then lowered.</p> <p>Clear up to 3m either side to facilitate truck movements (except through cultural heritage exclusion zones). Where roadside clearing is required to allow trucks to traverse an exclusion zone, clearing may be carried out manually (i.e. chainsaw/pruning saw). Roadside clearing within CH exclusion zones needs to be limited to 1m either side.</p> <p>Install drainage as per EPL requirements.</p> <p>RC/HC Comments:</p>			

Cpt 36/7 Rd 110m	<p>Refer to New Road Construction form.</p> <p>Ensure that no disturbance occurs in nearby cultural heritage exclusion zones.</p> <p>RC/HC Comments:</p>			
Cpt 36/8 Rd 170m	<p>Clear up to 3m either side to facilitate truck movements.</p> <p>Install 1x rubber flap as per attached roading map.</p> <p>RC/HC Comments:</p>			
Cpt 36/8 Rd 110m	<p>Clear and reshape entire length.</p> <p>Clear up to 3m either side to facilitate truck movements.</p> <p>Install drainage as per EPL requirements.</p> <p>RC/HC Comments:</p>			
S1 Existing Crossing E254408 N6074591	<p>Clear vegetation on existing snig track.</p> <p>Minimise disturbance to adjacent vegetation.</p> <p>Install crossbanks on both approaches between 5 & 20m from crossing.</p> <p>Lay rock if required if operating during wet conditions.</p> <p>RC/HC Comments:</p>			

NEW ROAD CONSTRUCTION**Road Specific Conditions:**

Road Name	Road Length (m)	Max. width of road prism (m)	Max. road grade (length road >10 degrees?)	Max. ground slope (length road >30 degrees?)	Estimated Max. height of cut / fill batters (m)	Estimated Max length of batters (m)	Mass movement / dispersible soils	Final road use	Responsibility	Start Date	Finish Date
Cpt 36/7 Rd	110	4	7°	14°	<1m	110m	No	Retain	FCNSW		

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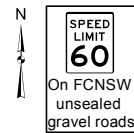
Harvest Plan Roding Map

Compartment: 36

State Forest: Flat Rock No: 834

Southern IFOA - South Coast

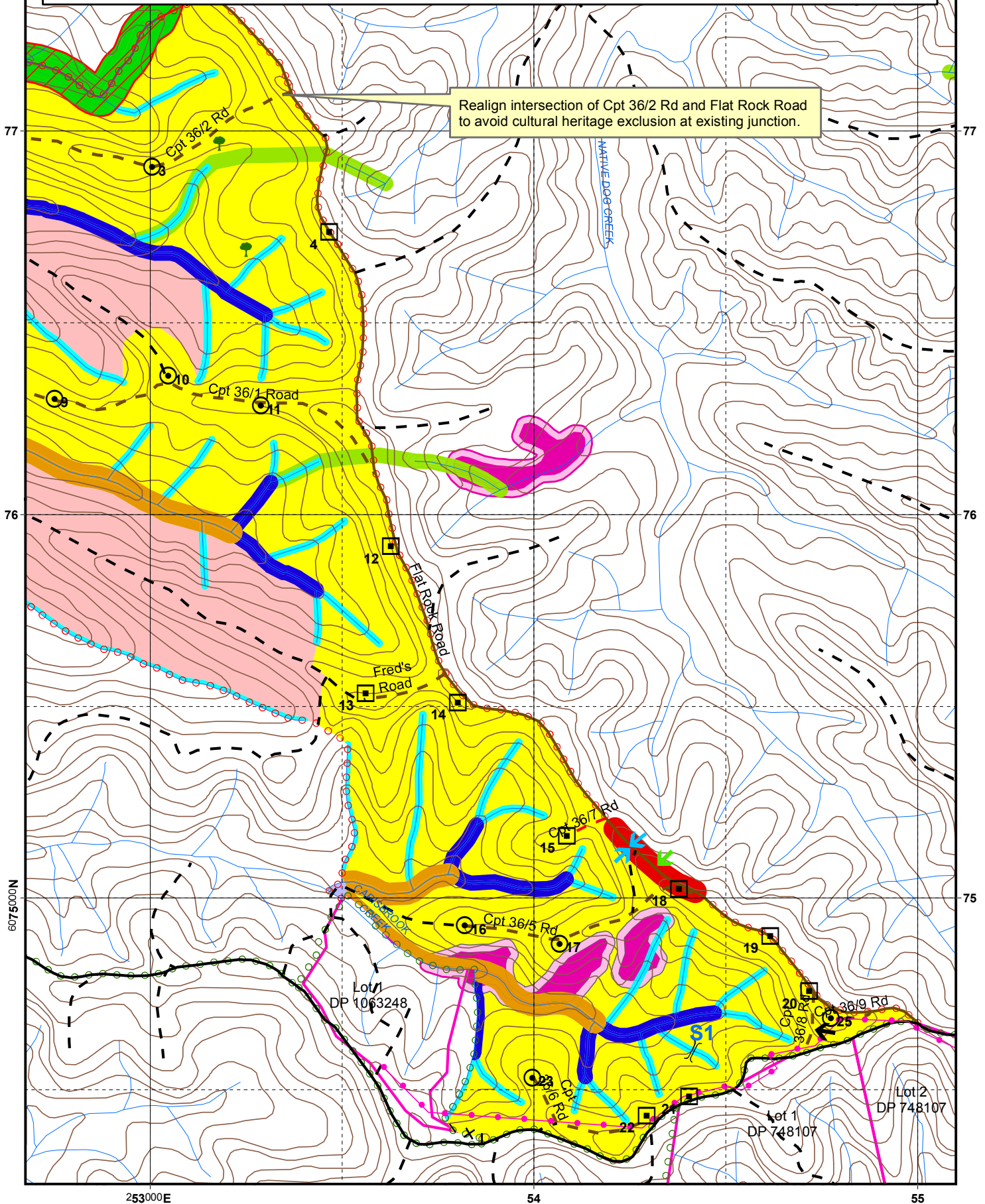
Map Sheet: Tabourie 8927-2S



ROADING FEATURES

- New Pipe
- New Mitre Drain
- New Rubber Flap
- Crown & Outfall Road

Realign intersection of Cpt 36/2 Rd and Flat Rock Road to avoid cultural heritage exclusion at existing junction.



253000E

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